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ABSTRACT OF THE DISCLOSURE

A process and apparatus for elongating an optical fibre preform includes heating the preform so as to soften one region thereof; elongating the preform by submitting the preform to a traction; determining, during the step of elongating, the preform diameter in at least one measuring point along the preform; and controlling the step of elongating on the basis of the determined diameter. During the step of elongating, at least a geometrical parameter of the preform is measured, and the position of said diameter measuring point is controlled according to the measured geometrical parameter. Measuring at least a geometrical parameter of the preform may be accomplished by determining the profile of at least a portion of the softened region, e.g., an image of the neck region profile.